Appl. No. 10/671,806
Amdt. dated March 16, 2005
Reply to Office Action of November 17, 2004

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1.   (currently amended) A method of controlling a write current in a magnetic disk drive, the method comprising:

receiving a write command to initiate a present write operation; and

if a predetermined period of time has elapsed since a most recent write operation terminated,

applying a given write current to a write head coil at the beginning of the present write operation, and

decreasing the write current during the present write operation in multiple steps the number of which depends on the number of recording operation interruptions and is greater than two steps, wherein the write current is less than the given write current at the end of the write operation; or

if said predetermined period of time has not elapsed since the most recent write operation terminated, applying a write current less than the given write current at the beginning of the present write operation.

2.   (currently amended) A method of controlling a write current in a magnetic disk drive, the method comprising:

receiving a write command to initiate a present write operation; and

if a predetermined period of time has elapsed since a most recent write operation terminated,

applying a first write current to a write head coil during a first portion of the present write operation, and

applying a second write current during a second later portion of the present write operation, wherein the first write current is higher than the second write current, the write current being decreased from the first write current to the second

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write current in multiple steps the number of which depends on the number of recording operation interruptions and is greater than two steps; or

if said predetermined period of time has not elapsed since a most recent write operation terminated, applying the second write current during the first and second portions of the present write operation.

3.   (canceled)

4.   (original) The method of claim 2 wherein the first and second write currents are maintained at respective constant levels during the first and second portions of the write operation.

5.   (original) The method of claim 2 wherein the first write current is achieved by increasing an amount of overshoot during the first portion of the write operation relative to the amount of overshoot during the second portion of the time interval.

6.   (original) The method of claim 2 wherein said predetermined period of time is between several tens of microseconds and a millisecond.

7.   (original) The method of claim 2 wherein:
the write current applied to the write head coil is specified by a register value; and

the register value is set to specify the first write current after said predetermined period of time has elapsed.

8.   (canceled)

9.   (canceled)

10.   (canceled)

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11.   (currently amended) A magnetic disk drive comprising:

a magnetic disk that rotates during operation;

a write head having a coil through which a write current is passed during a write operation; and

a write current control circuit that causes said write current to decrease in multiple steps, the number of which depends on the number of recording operation interruptions and is greater than two steps, during a write operation so that for an initial portion of the write operation, the write current [[is]] being higher than the write current for an ending portion of the write operation.

12.   (original) The magnetic disk drive of claim 11 wherein the initial portion is defined by a predetermined number of sectors.

13.   (canceled)

14.   (original) The magnetic disk drive of claim 11 wherein the write current is held at a first value for a first portion of the write operation and then at a second, lower value following the first portion of the write operation.

15.   (currently amended) A magnetic disk drive using a magnetic head for energizing a coil when information targeted for storage is divided into specified segments and is written onto a magnetic disk medium,

wherein said magnetic disk drive has a function of means for setting the value of write current to be supplied to the coil for each of said specified segments and records a recording information while varying the write current in multiple steps, the number of which depends on the number of recording operation interruptions and is greater than two steps, during a writing sequence.

16.   (original) The magnetic disk drive of claim 15 wherein said specified segments are sectors.

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17.   (original) The magnetic disk drive of claim 15 wherein said magnetic disk drive has a function of setting an overshoot instead of setting said write current and records the information at various settings for said write current by varying the overshoot.